

REINVENTING THE CITY

The title 'REINVENTING THE CITY' is rendered in a bold, sans-serif font. 'REINVENTING' is on the top line, with 'RE' in orange and 'INVENTING' in white. 'THE CITY' is on the bottom line, with 'THE' in orange and 'CITY' in white. The letters are set against a dark grey background. A white security camera icon is positioned on top of the letter 'I' in 'INVENTING'. The letters have a slightly distressed or textured appearance.

Part one

Reinventing the City: 1820 – 1914

An industrialists' city with a
Neo-Classical twist...

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Introduction

Let's begin where NewcastleGateshead began.

Alongside a river which has undergone its own reinvention in the last decade.

Neither Newcastle nor Gateshead would exist without the River Tyne. Two thousand years ago the Romans identified the lowest crossing point of the river and built the first bridge where the red and white Swing Bridge now stands. And on the high ground overlooking their bridge these invaders from afar built a fort - Pons Aelius. (Pons = bridge. Aelius = family name of the Emperor Hadrian who created the military frontier system running east to west across the narrowest part of the country known as Hadrian's Wall).

From the early days of NewcastleGateshead the River Tyne was the commercial artery along which flowed the wealth of the immediate region. This is the largest river in the north east region and today its waters are clean, brimming with life and classed as England's top salmon river. Very different from the working river of the past when it played a pivotal role in the economic development of NewcastleGateshead. From the early medieval period leather, wool and most famously "King Coal" were transported to the river mouth ten miles to the east and thus to the markets which lay beyond. The River Tyne became one of Great Britain's most successful trading rivers and, eventually, a real powerhouse of industrial development.

On both banks prosperous 17th century merchants built their imposing timber framed, glass fronted town houses within view of the river and cheek-by-jowl to some of the poorest families living in over-crowded conditions.

By the early 19th century the River Tyne was a thriving, bustling artery with glass works, pottery, the coal trade and shipyards creating wealth and fame. A handsome new town centre was created in the Neo-Classical style in the 1830s to reflect that new found confidence and local people's desire for fashion and style.

But as the 19th century progressed bigger changes were on the way. Change for Great Britain as a nation. Change for NewcastleGateshead. Political and social change, architectural and ecclesiastical change would all make an impact on

NewcastleGateshead.

And often, these were changes which NewcastleGateshead itself would help create and shape.

Stop 1

Swing Bridge / High Level Bridge

The NewcastleGateshead of the 19th century was an exciting place to be. Mother Nature had provided abundant local natural resources in the form of stone for quarrying and coal, lead and iron ore for mining activities. But natural wealth alone was not sufficient. NewcastleGateshead's second piece of good fortune was to be the birth place, or the adopted home, of some of the 18th and 19th centuries greatest industrial pioneers, entrepreneurs and inventors. Men such as Newcastle born Sir William Armstrong (1810-1900), "adopted Geordie" Charles Algernon Parsons (1854-1931), Sir Joseph Swan (1828-1914) from Sunderland but resident in Gateshead and the Stephenson family entered the nation's history books. And it was their creativeness and inventiveness which helped Newcastle reinvent itself and move from being a medieval merchants town to an industrial world leader.

These men harnessed the natural resources which helped NewcastleGateshead develop into a powerhouse of the Industrial Revolution. Their inventive minds changed the world forever and helped establish NewcastleGateshead's reputation for creativity, a reputation which continues today.

In their time "King Coal" reigned supreme. "Black diamonds" helped fire the Industrial Revolution creating an empire of wealth and work. And coal gave birth to a new form of transport – steam locomotives.

Some of the region's earliest coal mines were developed close to the banks of the River Tyne and in the 17th century horse drawn wooden waggonways were constructed to transport coal from the mine to the riverside where it would be loaded into keelboats and transported down river.

But there came a time when greater efficiency and speed was required to improve the economics of moving coal around the landscape. And necessity is the mother of invention. The age of the train had arrived. And with it came a wide ranging impact on the social fabric and geography of Britain. One of the most dramatic increases in town dwelling in Great Britain happened in the 19th century.

Many completely new towns appeared for all sorts of different reasons. Some developed around spas (eg Harrogate); others because of the growth of seaside holidays (eg Weston-super-Mare) and others because of military connections (eg Catterick). But the biggest factor of all was the expansion of industry and specifically the expansion of the railway industry. If a railway bypassed a town then development of that town stagnated. But if a railway reached a town then commercial growth was guaranteed. And NewcastleGateshead was not going to miss out on that.

Two of NewcastleGateshead's seven bridges illustrate these changing times.

The railway age is represented by the High Level Bridge, the oldest of the bridges. Designed by civil engineer Robert Stephenson (1803-1859), also responsible for the Royal Border Bridge at Berwick upon Tweed, the High Level Bridge is much loved and admired and was a technological achievement for its day being the first major example of a wrought iron tied arch bridge. Some of the iron used was supplied by Bellingham iron works in north Northumberland.

And a world first! This is a double decker bridge with the road deck suspended from the arches by wrought iron rods. Trains run along the top at a height of 85 feet above the water.

The bridge was opened by Queen Victoria in 1849 and for the first time trade and commerce bypassed the steep riverbanks and was quite literally transported onto the high plateau lying above and behind the river frontage. Railways were the future and the arrival of the "iron horse" right into the heart of Newcastle initiated massive commercial growth and created new opportunities. Thus Newcastle's urban development took a leap forward.

The second significant bridge of this period is the Swing Bridge of 1876 which stands on the site of the Roman Bridge. The present bridge was part of an overall plan to improve navigation on the River Tyne in the 19th century and to encourage the expansion of trade along the river by allowing larger ships access upstream. The bridge was designed and built by Sir William Armstrong (1810-1900) at the time one of Victorian Tyneside's greatest entrepreneurs, engineers and industrialists.

Armstrong was born in 1810 when England was a country still dominated by the aristocracy and the landed gentry. But once Napoleon Bonaparte had

been defeated at the Battle of Waterloo (1815) Great Britain entered a period of peace which allowed science and industry to flourish. Born in the right place and at the right time to take advantages of these changes, William Armstrong witnessed dramatic changes in the social and scientific worlds of his day and was to make a personal contribution to those very changes.

Armstrong had a great interest in the design and production of hydraulic machinery recognising that he could utilise the power created by a descending flow of water to drive machinery. One of his first inventions was a hydraulic crane and, most famously, it was his hydraulic machinery which was used in the design of Tower Bridge in London.

But he made his name and fortune in manufacturing armaments and military technology.

The Armstrong Breech loading gun modernised the British army's field artillery almost overnight and its success rendered most other guns obsolete. He realised that to achieve long range he had to use elongated rather than round projectiles and to achieve accuracy the missile had to rotate as it came out of the barrel. The popularity of the gun brought its inventor huge wealth and a knighthood.

Armstrong's armaments factory lay upstream and so he designed and built a Swing Bridge to allow his customers' ships to move unimpeded upriver to his factory. The bridge is hydraulically operated (today electric pumps) and although it can rotate in either direction it always opens anti-clockwise so as to follow any vessel round as it goes through the opening. The busiest year for the bridge was 1924 when it opened a total of 6,000 times which indicates the scale of traffic on this once industrialised river. Appropriately, the very first ship to pass through the bridge was on her way to Armstrong's Elswick works.

But Armstrong had a third interest: the newly emerging world of electricity. His friendship with Sir Joseph Swan ensured that Armstrong's house at Cragside in Northumberland became the first private home in the world to be lit by hydro electric power.

Stop 2

St Nicholas Cathedral

In 1882 Newcastle was formally recognised with city status and the medieval church of St Nicholas became the seat of the new bishopric when it was granted cathedral status. To reflect its new role, the church went through its own re-invention with the addition of new interior furnishings designed to beautify the church and reflect its new status as the focal point of a new diocese.

Stop 3

Literary & Philosophical Society

Radical thought – in its broadest sense - is a recurring theme in NewcastleGateshead's development. New ideas, new inventions, new intellectual drivers kept the 19th century city at the forefront of knowledge.

As NewcastleGateshead's pioneering spirit continued to grow there was a need for like-minded men to have the opportunity to meet, discuss ideas and share information. In the spirit of the times and in this quest to improve knowledge through discourse, Newcastle established the Literary and Philosophical Society in 1793 as a "society for conversation" and in 1825 the opening of the present handsome building with its Greek-style architecture was marked with a sumptuous meal, 35 toasts and 53 speeches. The winner of an open contest for the design of the building was architect John Green and the eventual cost was £13,000.

Lectures on geology, mechanical engineering, chemistry, urban and rural improvement, antiquities, navigation and mathematics were offered and scientific discussion and research encouraged. But the discussion of religion and politics was banned and the Society's library did not collect books of fiction although finally admitted "lighter literature" in the early 1840s.

The opening night's festivities may have been over the top. But that was nothing compared to an evening in 1880 when the Society's lecture theatre became the first room in a public building in the world to be lit by electric light. Part way through his lecture, the scientist Sir Joseph Swan asked for the room's 70 gas lamps to be turned down. Imagine his audiences' surprise when the same room was suddenly bathed with more light than ever before but produced by only 20 of Swan's incandescent light bulbs. Swan had developed a way of creating light by using electricity to heat a filament until it became so hot it glowed. In doing so, Swan re-invented the world of light.

But Sir Joseph Swan was just one of the famous names to grace the Society's lecture theatre which also played host to Sir William Armstrong, Northumberland born artist and wood engraver, Thomas Bewick (1753-1828) and British Prime Minister Charles, 2nd Earl Grey (1764-1845).

Adjacent to the Literary and Philosophical Society is Neville Hall which houses the North of England Institute of Mining and Mechanical Engineers, a treasure house of architecture and home to the Nicholas Wood Memorial Library, the world's most significant mining library with more than 20,000 books and journals on mining technology, mechanical engineering, geology, mineral chemistry....the list goes on.

A marble statue of Nicholas Wood, the Mining Institute's first President, occupies prime position inside the library. Wood held the important post of colliery "viewer" at Killingworth Colliery where a young George Stephenson first made his mark experimenting with mining technology. The Library is gloriously imposing and the tiered lecture theatre added in 1902 to the same design as the Royal Society lecture theatre in London is still in regular use today.

Stop 4

George Stephenson statue / Neville Street

George Stephenson (1781-1848) was born in the village of Wylam in Northumberland on the edge of the Great Northern Coalfield, the son of a colliery fireman. He and his family moved around the north east as his father's work dictated and whilst living at Killingworth in Northumberland he developed his early interest in technology. In 1814 Stephenson launched the first successful flanged-wheel adhesion locomotive and named it "Blucher". His career as one of Great Britain's most famous railway engineers was about to take off.

Often described as the "Father of the Railways" Stephenson did not invent the steam locomotive but in 1825 his Locomotion No 1 did become the world's first steam operated, passenger carrying public railway in the world travelling between the towns of Darlington and Stockton. It was Stephenson's design improvements and engineering skills which proved once and for all that steam locomotives could transport goods and passengers economically and efficiently and he can be credited with helping to re-invent the world of transport.

Unveiled in 1862 to honour his wide-ranging achievements there is more to this statue than immediately meets the eye. The four seated figures at the base of the pedestal each hold a symbol representing the fields he was active in: mining, locomotive engineer, blacksmith and plate-layer.

Whilst living with his family at Killingworth in Northumberland Stephenson carried out his pioneering development work on mining equipment. This led eventually to the invention of his miner's safety lamp which he demonstrated in 1815 at the Literary and Philosophical Society. As the demand for coal soared in the 19th century miners were increasingly finding themselves working at deeper levels to reach less accessible coal seams. But at deeper levels there lurked even deeper dangers. Firedamp was a flammable gas found in coal mines and was very common in areas where coal was bituminous, as in the case of Tyneside mines. Consequently, the Great Northern Coalfield suffered terrible disasters with great loss of life because of gas explosions but Stephenson's safety lamp allowed a miner to light his immediate surroundings whilst preventing a naked flame coming into contact with flammable gasses.

Sir Humphrey Davy worked on a similar safety device but the mining communities of the north east favoured the use of George Stephenson's lamp. It is even suggested that the origins of the word "Geordie" is from George's – or Geordie's – Lamp with the term eventually coming to represent the coal miners themselves.

But Stephenson's interests were very wide-ranging and included a life long love of gardening. And it was the latter which led him, in retirement, to invent the straight cucumber! Or rather to develop a cylindrical cucumber glass with which he grew straight cucumbers.

Stop 5 **Newcastle Central Station**

If a city is going to have only one railway station then it would be difficult to imagine a more striking contender than Newcastle's Central Station. The development of the railways led to the development of innovative and exciting new railway architecture and the Central Station is regarded as one of the most important train sheds in the country. Taking its inspiration from the Roman classical world its rounded arches form an impression approach.

This was the first railway station to have all its platforms covered by a roof. A roof of timber

and glass bound together by wrought iron ribs and supported by cast iron columns. All of which produced a building both innovative and commercially viable in terms of building costs. Individual wrought iron beams were fishplated together to produce the main curved beams and because wrought iron is flexible it was possible to set the main beams on a curve. And that distinctive curve allows platforms of up to 400 metres in length and a total of more than 2 miles of platform.

And the architect of this masterpiece? John Dobson (1787 -1865)) was one of a triumvirate of men which included property developer Richard Grainger (1797-1861) and Town Clerk John Clayton (1792-1890) who jointly were responsible for the re-invention of Newcastle's architectural landscape in the 19th century. Dobson served his apprenticeship under David Stephenson, the leading architect of the day in the north of England and became a truly professional architect working in the Neo-Classical style. His influence can be seen in railway stations, cemeteries, churches and public buildings throughout the north east region but it his work in Newcastle which paved the way for his – and Newcastle's – well deserved reputation for 19th century style and elegance.

Stop 6 **Stephenson Locomotion Works / South Street**

The Stephenson Locomotive Works was the world's first purpose built locomotive factory opening in 1823. The 37 steam locomotives which were designed and built inside its walls over the following 8 years were to reinvent the world of global transport.

The Company was financed by money raised outside the Stephenson family with the initial £4,000 being provided by Edward Pease, a member of a wealthy Darlington Quaker family and a keen supporter of George Stephenson's work. The factory building was constructed with one wall fully glazed to allow the maximum amount of light to flow into the area where the boilers were made.

The Works' managing partner was a teenager. At 19 years of age Robert Stephenson (1803-1859) had inherited his father's engineering abilities and it was in these buildings that the Stephenson's designed and constructed Locomotion No 1, so named because it was the first entry in the workshop order book.

That entire 1825 railway project was engineered by George Stephenson including the surveying of the route, the supply of the rails and the building of Locomotion No. 1. This produced a working railway

system for both passengers and freight on which new ideas and equipment could be tested and developed. His achievements certainly helped earn north east England its place as “the Cradle of the Railways”.

Four years later, in these same workshops, Robert Stephenson designed and built the equally famous Rocket and took this engine to the Rainhill Trials staged near Liverpool and Manchester. The Trials were held to determine whether the future of transport lay in stationary steam engines or moving locomotives. Speed, strength and durability were tested and Rocket won the day with an average speed of 12mph and a top speed of 30mph, a world record for the times. Steam locomotives began to be accepted as the future of transport.

Robert Stephenson undoubtedly had the same engineering flair as his father and in some ways he had a stronger intellect. Such were his innovative civil engineering skills that he was able to also carve an international career with projects as far afield as South America and Europe.

Robert Stephenson may have travelled far and wide but always referred to Newcastle as “his native town” and by the time he died his firm was the largest employer on Tyneside. The honour of a burial in Westminster Abbey next to another great British engineer, Thomas Telford, sealed his place in national history.

Stop 7

Mosley Street (adjacent to Kilburn House)

It was not just in the world of railway engineering that the Newcastle of the 19th century was re-inventing itself. In 1818 Mosley Street became the first street in England to be lit by gaslight. And in 1881 became the first street in England to be lit by electricity.

Sir Joseph Swan may have been born in Sunderland and lived in Gateshead but it was in Mosley Street, Newcastle that he joined forces in 1846 with his brother-in-law John Mawson to open a pharmacy business. After the success of his demonstration of the light bulb in the Literary and Philosophical Society’s building, Swan opened a factory to meet demand for his new product and supplied the early light bulbs for Mosley Street. Before long, Swan’s electric light was rapidly adapted for lighting shops, places of entertainment and even Parliament adapted the system for lighting the House of Commons.

Stop 8

Grey Street / Grainger Town

Money, style and fashion backed by copious amounts of ambition. All come together in a street which is quite simply one of the glories of NewcastleGateshead. Grey Street lies at the heart of the renowned Grainger Town conservation area and easily ranks with the city of Bath and the New Town area of Edinburgh for taking one’s breath aw....

With outstanding architecture of very high quality more than half of the buildings are listed and over 20% are listed of Grade 1 importance.

By the 1830s Newcastle was expanding rapidly and ready to turn itself from a medieval merchant’s centre into a respectable, fashionable town. In the process it resulted in a relocation of the town centre with Neo-Classical architecture of the highest quality. Balanced, dignified and handsome buildings set off to best advantage on a curving, wide street, Grey Street shows off the “Tyneside Classical” style to best advantage.

Peace, prosperity and confidence were the buzz words of the day and the timing was perfect for a young property developer called Richard Grainger. At the age of 19 he established a building business with his brother but was forced to go it alone when his brother died shortly afterwards. Grainger married the eldest daughter of a wealthy tanner and her money helped him get started on the property ladder (smart move.....).

Another of Newcastle’s local residents in the right place at the right time, Richard Grainger was a man who had a talent for property development and an ability to understand how the minds of the local Town Councillors worked. His “Grand Plan” was to build a series of elegant, classically designed streets to be completed in a relatively short period of time to ensure a continuity of style and atmosphere. Starting in 1835 Grainger’s “City of Palaces” sprang up over a remarkably brief seven year period adding an amazing £1m pounds (19th values) to the property portfolio of Newcastle.

He didn’t do it all alone. He had the good sense to employ some of the leading local architects of the day. Men like John Wardle, George Walker, John and Benjamin Green as well as John Dobson. But it was Grainger’s over-arching vision which re-invented the Newcastle of his day.

Stop 9

Theatre Royal

Like a glorious “full stop” at the top of Grey Street the impressive Theatre Royal was opened in 1837 just a few months before Queen Victoria ascended the throne.

Designed by architects John and Benjamin Green who again took their inspiration from the Classical world, the building is entered through an impressive portico formed by six Corinthian columns. The quality of its architecture is recognised today as it is one of only five Grade One listed theatres outside of London.

The Royal Coat of Arms of the House of Hanover is the focal point above the entrance columns and includes leopards, the lion of Scotland and the harp of Ireland. The Hanoverian line ended when Queen Victoria came to the throne because it had been one of male descendancy only and in the centre are the Arms used by George III when Hanover became a kingdom

A fire devastated the building’s interior in 1901 and Frank Matcham, the leading theatre designer of the day, was the architect of today’s beautiful light and graceful interior.

Stop 10

Grey’s Monument

In 1819 crowds of demonstrators massed in Manchester. The end of the Napoleonic War had brought huge unemployment and a national economy under pressure. Residents of the growing industrialised towns in the north of England felt inadequately represented in Parliament and political radicalism began to look very appealing to some parts of the population. The crowds at St Peter’s Field in Manchester were marching for parliamentary reform and wanted the new towns to be recognised for the power houses they were rapidly becoming. Local magistrates thought differently and soldiers were sent into the crowd with swords drawn. The resulting Peterloo Massacre raised awareness across the country but in the short term made the Government of the day crack down on any question of reform. The reformers had to wait almost another generation before gaining their rights.

And it was a politician from North East England who was to reinvent the question of reform so it became both politically and socially more acceptable.

Charles, 2nd Earl Grey was born in Northumberland in 1764 and educated at Eton and Cambridge University. He became MP for Northumberland,

leader of the Whig Party and, eventually, Prime Minister. Ambitious and always opportunist Grey was intensely interested in social reform and by the 1830s recognised that Parliament no longer represented the communities making up the nation. At the time, every English county sent two MPs to the House of Commons, regardless of how big or small the County was. Even “Oxbridge” University sent two MPs. But growing industrial centres such as Manchester, Birmingham, Leeds and Newcastle were not adequately represented in Parliament.

Reform was slow arriving but the Great Reform Bill was eventually passed in 1832. Grey was an elderly man at the time but his lasting legacy was a peaceful reform of Parliament. Loyal friends raised the funds for the column and statue. And it was completed whilst he was still alive. So Grey’s Monument was raised in honour of the statesman and to mark the passing of the Bill and not simply as his memorial.

And his personal life? Although legitimately married to Eliza Ponsonby, Grey pursued a love affair with Georgiana, Duchess of Devonshire of the Chatsworth estate which resulted in an illegitimate daughter. He and his lover corresponded with each other in secret code with Earl Grey using the pseudonym “Mr Black”. Great imagination!

At the base of Earl Grey’s column four modern likenesses of the Earl’s head are cast in glass cases.

Stop 11

Parsons’ Polygon / Blckett Street

Charles Algernon Parsons (1854-1931) was another of the “shakers and movers” who helped to reinvent Newcastle’s reputation in its industrial heyday.

The young Charles Parsons was educated at Trinity College, Dublin and also Cambridge University but carved his career on Tyneside, relocating here to work as an apprentice to Sir William Armstrong. Parsons can be credited as the man who “invented the 20th century” since turbine engines went on to be used in power stations to create electricity as well as powering ships great and small. Even early developments in jet propulsion can be traced to his achievements.

Parsons’ most famous achievement – designed and built to showcase his new invention – was the creation of Turbinia (on display in Discovery museum) the first vessel in the world to be powered by a steam turbine engine.

Parsons' Polygon is a sculpture doubling as a ventilation shaft for the Metro underground system and the designs on the surface of the polygon are based on Parson's engineering drawings for the turbine engine.

The story of Turbinia still fascinates today. This fine boat was launched in 1894. With her long, narrow profile and sitting very low in the water this little boat was certainly eye-catching and because everything in Parsons' turbine design was new, everything had to be invented from scratch. This was really pushing the envelope of new ideas. But still the inventor struggled to prove to the world that a commercially produced steam turbine engine could be a successful alternative to the steam engines already in use. So to prove his point he had to prove his product. "If you believe in a principle, never damage it with a poor impression. You must go all the way....."

And all the way he went. To the Royal Review of the Fleet held at Spithead on 26 June 1897 and a perfect opportunity to demonstrate his new ideas. Naval Reviews had been held since medieval times and provided an opportunity for monarchs to check that their navy was fit for war or to show off to an enemy the strength of the British fleet. And the safe anchorage of Spithead in the Solent outside Portsmouth Harbour offered the perfect position to assemble a large number of ships.

The Review which Parsons attended, however, was a ceremonial occasion held in honour of Queen Victoria's Diamond Jubilee. One hundred and sixty five ships including battleships, cruisers and gunboats lined up in the presence of the Prince of Wales, who represented the frail Queen, and other European royalty, ambassadors and representatives of the Admiralty. As the National Anthem played and the Navy's ships stood in line with everyone at attention, Parsons seized his destiny. Turbinia broke ranks and steamed into history as the fastest vessel around at 34 knots (60 kms/hour). Furious Royal Navy representatives sent a patrol boat to intercept Turbinia but the wash created by this little boat was almost enough to sink the picket boat. The maverick Parsons had proved his point, big time. And in 1905 the Admiralty finally ordered all future Royal Navy vessels to be turbine powered.

Stop 12

Eldon Square

In 1824 a young Richard Grainger began work on developing elegant Eldon Square and what remains of the original Square provides a fine example of his

earlier work. Completed before the creation of Grey Street it reflects the uniformity of style which was to be a trademark of his later work. The architect was John Dobson and the style was Neo-Classical.

What confidence. What ambition. What spaciousness. What elegance. Even in this early project Grainger was keen to use only the best construction materials: dressed sandstone as opposed to the usual brick and – a nice finishing touch – wrought iron railings to set off each house front to best advantage. The Scottish capital city of Edinburgh had architecture like this. The prosperous southern city of Bath – much closer to the influence of London architects – had architecture like this. But Newcastle was a provincial, regional capital. Who would have thought it would have architecture of this scale and quality and yet it did. And Grainger went on to achieve even more.

Only the east side survives today (1825-1831) but it conveys all the beauty and style which must have existed before 20th century reinvention took over (see Walking Tour "The Times they are a-changing").

Stop 13

Laing Art Gallery

And what of the arts during this period of industrial reinvention?

Newcastle cannot claim to be the birthplace of the radical art movement known as the Pre-Raphaelite Brotherhood but the Laing Art Gallery has at its heart some fine examples of their work. Paintings by William Holman-Hunt and Edward Burne-Jones remind the viewer of the impact this band of artists had on the art world of 19th century England.

In the same gallery are works by Northumbrian artist John Martin (1789-1854). Born at Haydon Bridge and one of thirteen children, the young John Martin practiced his artistic skills by drawing in the muddy riverbanks of the River South Tyne. In 1806 he moved to London to earn a living painting coaches and it was here that he began to paint his grand, gloomy and dramatic landscapes. During a ten year period from 1832 Martin drew up a plan for London's waterfront from Greenwich to Hammersmith Bridge and thirty years later this was to influence Joseph Bazalgette (1819-1891) in his design work for the Victoria Embankment during Bazalgette's time as Chief Engineer of London's Board of Works.

But above all John Martin seemed to favour the theme of destruction. He was painting at a time when people were concerned with the savageness of Mother Nature and were seeking a thrill as well as beauty in their art. Martin's style is one of grandeur, melodrama and huge, shattering events. It's not uncommon in his paintings to witness landscapes torn apart by fire or flood with tiny human figures struggling in overpowering settings. Very different from the Pre-Raphaelite Brotherhood who launched their artistic style in the same decade as Martin's death.

John Martin was a popular artist during his own lifetime and gained an international reputation. He caught the public's imagination and attention, helped in no small part by selling engravings of his paintings to promote his work. Through this medium more people had more access to his work. He was greatly admired by 19th writers including Charles Dickens and Percy Bysshe Shelley but the art critic and supporter of the Pre-Raphaelite Brotherhood, John Ruskin, called his work "vulgar sensationalism".

Towards the very end of his life John Martin painted "The Destruction of Sodom and Gomorrah" which includes a view of a river gorge very similar to that of the River Tyne.

Martin is sometimes confused with "Mad" Martin who was his brother, Jonathan. This brother was responsible for setting fire to York Minster in 1829 whilst another brother – William – insisted on wearing a hat made out of tortoise shell and accusing George Stephenson of stealing his ideas for a miner's safety lamp. Despite the shadow William Martin casts on the Stephenson family, four years after Martin's death Robert Stephenson is elected as President of the Literary and Philosophical Society. Here was a man noted for his practical skills now in charge of a philosophical based organisation.

You couldn't invent a family like the Martins, much less re-invent them.

The Laing Art Gallery also houses works by Ralph Hedley (1848-1913) including "Geordie Haad the Bairn", "Paddy's Clothes Market" and "Sandgate". Ralph Hedley with "his paintbrush and palette" did for the region's farm labourer and coal miner what Robbie Burns did for Scottish peasantry "with his pen". After serving his apprenticeship, Hedley established himself as a successful painter of portraits and landscapes, as well as an accomplished woodcarver.

Hedley studied art and design at the government school in Newcastle, and attended evening classes at the Life School under William Bell Scott who was Master of the Newcastle School of Design and himself produced a series of famous paintings in the Pre-Raphaelite style at Wallington Hall in Northumberland.

Stop 14

University of Newcastle / Haymarket

The modern University of Newcastle has its roots in the 19th century when Newcastle was carving out its place in a scientific world which was still on the threshold of a modern dawn. The School of Medicine and Surgery was established in 1834, two years after a group of young doctors working in Newcastle had begun to offer courses in medicine, surgery and chemistry. There was much demand for this kind of expertise in a region where the work force was exposed to the dangers of harsh industries.

Local captains of industry in and around Newcastle in the 19th century realised that compared to the international stage of the day England lagged behind other European countries in the delivery of training in the sciences. So in 1871 Newcastle gave birth to a second college specifically for teaching physical sciences. This newly formed Armstrong College (now Armstrong Building) was named after Sir William Armstrong and in the early days the first subjects taught included mathematics, chemistry, mineralogy and geology all of which reflected the needs of local industries.

These two colleges formed one college of the University of Durham, then merged to form King's College until in 1963 the break with Durham was finalised and the University of Newcastle became a separate institution.

The University has always been an integral part of the city centre combining a physical presence with a massive economic contribution to the local economy. Its teaching and research facilities puts it firmly on the map as one of the leading British education institutions.

The University is currently (2009) in the middle of an ambitious and wide-ranging £200m redevelopment programme which will reinforce the physical relationship between the University and the city centre. The knowledge-based industries are supplanting the old industries and knowledge is beginning to play the role coal once did in re-inventing the city. The University is “trying to reinvent the notion of a civic university and place it centrally with the knowledge economy.” (Professor Chris Bank, Vice-Chancellor, University of Newcastle).

That means new buildings, new infrastructure and new public areas. King’s Gate is the glass fronted, five storey building on Barras Bridge facing the Civic Centre. An environmentally sound building – the design does away with the need for air conditioning - this new “front door” to the University campus will house new student and administrative services. Pedestrian routes through the campus will link the new buildings to the city and encourage more community involvement in the University and a sense of the two belonging together and dependent upon each other.

Stop 15 **“The Response 1914”**

No other war re-invented the map of Europe as dramatically as the First World War (1914-1918). A military conflict on a truly global scale the “war to end all wars” saw changes and advances in the use of artillery, communication systems, tanks, aircraft and marine craft. Sometimes known as “a family affair” because of the bloodline links between the major warring European royal families, the war spread rapidly and involved all levels of society across the globe.

Within a few months of the outbreak of hostilities 200,000 coalminers on the local northern coalfield had enlisted and the pace of recruitment continued to accelerate.

Of the 60 million European soldiers who fought in the war, 8 million were killed. In the wake of the war there was a national need to recognise the human sacrifice and so war memorials of all shapes, sizes and style began to be planned up and down the country.

“The Response 1914” is a powerful and moving example designed by Sir William Goscombe John RA (1860-1952). This evocative narrative sculpture shows soldiers marching off to war waved off by their wives and families. An angel watches over all.

The memorial commemorates the Northumberland Fusiliers who in April 1915 marched from their camp in Gosforth Park, along the Haymarket towards the Central Station and thence to the Western Front. Sir George and Lady Renwick commissioned and paid for the memorial partly in gratitude for the safe return of their five sons from the war.

“Not for Self but for Country” says the Latin inscription on the memorial.

Four very long years of warfare. But what type of city did those soldiers, sailors and airmen finally return to?

What re-invention did they – and their city – have to undergo on their return?